UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,934	02/14/2002	John Turner Maxwell III	107147	6401

27074   7590   03/16/2006

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EXAMINER
HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/073,934	MAXWELL, JOHN TURNER
	Examiner	Art Unit	
	Joseph P. Hirl	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 December 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>14 February 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>A1</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   This Office Action is in response to an AMENDMENT entered December 30,

2005 for the patent application 10/073,934 filed on February 14, 2002.

2.   The First Office Action of October 4, 2005 is fully incorporated into this Final

Office Action by reference.

Status of Claims

3.   Claims 1-16 are pending.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "unsatisfiable" is a relative term and reduces the

claim to indefinite.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7.   Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not identify a practical application that produces a useful, tangible and concrete result using the claimed methodology. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874) The USPTO published the "Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility" on October 26, 2005 and posted such guidelines to the uspto.gov website.

8.   For an invention to be "useful", it must manifest the features of being specific, substantial and creditable. Claims 1-16 lack specificity as noted in the examples below:

    1.   ...a plurality of contexted disjunctions

    2.   ...eliminating nogoods by refining the representation

    3.   ...refining the representation is carried out without reordering the disjunctions

    4.   ... refining the representation is carried out without merging the disjunctions

    5., 6., 7., 8., 9., 10., 13., 14.,   ...transforming the representation

    11. ...storage device that stores a representation

    12. ...refining the representation

    15. ...solving a nogood database using the representations

    16. ...associated constraints are unsatisfiable

9.   For the claims to have a tangible result such claims must have real world results. Claims 1-16 have abstract results as identified below:

    1.   ...storing the representation

2.   ...result of the conjunction of contexted disjunctions is backtrack-free

3.   ...refining the representation is carried out without reordering the disjunctions

4., 5., 6., 7., 8., 9., 10. , 13., 14.   ...transforming the representation

11.   ...replaces the representation

12.   ...refining the representation

15.   ...solving a nogood database using the representations

·16.   ...associated constraints are unsatisfiable

The above cited conditions are not unique to the subject claims but do exhibit the

abstractness of the disclosed concept wherein a nogood is a propositional variable or a

conjunction of propositional variables whose associated constraints are unsatisfiable in

the context of the current problem. The nature of the disclosure deals with the concept

of the space of unsatisfiability which is strongly abstract. Operations related to

unsatisfiability will by their nature be abstract since real results do not exist in the space

of unsatisfiability. Hence the operations cited above are abstract and operating on the

abstract will axiomatically produce abstractness. Since abstractness is the opposite of

tangibility, the disclosed invention lacks a tangible result and is non statutory. Storing

the representation as the conjunction of contexted disjunctions is not the solution of

nogood databases since the goal is to reduce the result of such contexted disjunctions

to false ...

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by

Christianson et al (U.S. Patent 6,102,969, referred to as **Christianson**).

Examiner's Interpretation

A propositional variable can be either true or false ... 1 or zero ... here or not

here ... happening or not happening

X -> (Y v Z) meaning that if the variable Y _or_ the variable Z is true, then X is true.

This statement is a contexted disjunction.

A combination of X and X', where X' -> (Y' v Z') and Y, Y', Z and Z' are mutually

exclusive, is the conjunction of contexted disjunctions.

Simply stated, the applicant's conjunction of contexted disjunctions can be

alternatively represented a query of events. Has at least one event consisting of the

mutually exclusive events A, B, C, or D occurred where each event has qualifying

subevents to mirror the subevents of A such as a_1, a_2, a_3 etc. and each of such

subevents are mutually exclusive.

Translating from the abstract to the real life (prior art of Christianson or others),

Christianson anticipates a "netbot" that tracks available information sources on a

network. Specifically, Christianson's netbot acts as a user's intelligent assistant by

tracking available network information sources, knowing the relevant information and features of each particular source and upon user request, determining which sources are relevant to a given query, forwarding the query to the most relevant information sources, understanding the responses returned from each source, and integrating and intelligently presenting the query results to the user (Christianson, c2:45-52).

Hence, the methodology used by Christianson to integrate the query results is that of conjunction of contexted disjunctions ... it is the only way that Christianson can achieve the disclosed results.

The terminology of the applicant is non-distinctive to the methodology used by Christianson or others in simply answering a query where the answers are assembled from various sources.

Claims 1, 11

Christianson anticipates generating a representation comprising a plurality of contexted disjunctions (**Christianson**, c 7:41-45; Examiner's Note (EN): ¶ 16. applies; network information sources are contexted disjunctions related to a user query); conjoining all of the contexted disjunctions to form a conjunction of contexted disjunctions (**Christianson**, c 7:41-45; EN: rank the network information sources is equivalent with conjoining contexted disjunctions); and storing the representation as the conjunction of contexted disjunctions (**Christianson**, c 3:26-28; EN: which are performed by a computer).

Claims 2, 12

Christianson anticipates eliminating nogoods by refining the representation until a result of the conjunction of contexted disjunctions is backtrack-free or the result of the conjunction of contexted disjunctions reduces to false (**Christianson**, c 3:47-54; EN: achieving backtract free is equivalent to eliminating nogoods).   ,!

Claims 3, 6, 9

Christianson anticipates the refining the representation is carried out without reordering the disjunctions (**Christianson**, c 22:63-67: EN: alternatives are listed).

Claims 4, 7, 10

Christianson anticipates the refining the representation is carried out without merging the disjunctions (**Christianson**, c 22:63-67: EN: alternatives are listed).

Claims 5, 13

Christianson anticipates transforming the representation so that the conjunction of contexted disjunctions is backtrack-free (**Christianson**, c 3:47-54; listing is transformation).

Claims 8, 14

Christianson anticipates transforming the representation so that choosing any disjunct from each of the disjunctions results in a valid solution (**Christianson**, c 3:47-54; c 22:63-67; EN: choosing any implies choosing one which is a Markush type claim and therefore selecting one solution anticipates this claim).

Claim 15

Christianson anticipates solving a nogood database using the representations,

the nogood database comprising at least one nogood (***Christianson***, c2:42-52; EN:

such would be a query where the response would be null).

Claim 16

Christianson anticipates a nogood is a propositional variable or a conjunction of

propositional variables whose associated constraints are unsatisfiable (***Christianson***,

c2:42-52; EN: such would be a query where there is no related data/information in the

searched sources).

Response to Arguments

12.   Applicant's arguments filed on December 30, 2005 related to Claims 1-16 have

been fully considered but are not persuasive.

In reference to Applicant's argument and Examiner's response:

Applicant's response related to the rejections under 35 USC 101 are

acknowledged and the instant rejections with rationale under 35 USC 101 are cited

above.

In reference to Applicant's argument:

Christian fails to disclose any of "generating a representation comprising a plurality of contexted
disjunctions," "conjoining all of the contexted disjunctions to form a conjunction of contexted disjunctions,"
or "storing the representation as the conjunction of contexted disjunctions," recited in claim 1 or "a
storage device that stores a representation comprising a plurality of contexted disjunctions" or "a

processor that conjoins all of the contexted disjunctions to form a conjunction of contexted disjunctions and replaces the representation with the conjunction of contexted disjunctions," recited in claim 11.

This rejection is based on the Office Action's assumption that the network information sources disclosed in Christianson are equivalent to Applicant's claimed "contexted disjunctions." However, as discussed and defined in detail in Applicant's specification,' contexted disjunctions are specific to constraint satisfaction problems and are a disjunction including propositional Boolean variables whose expression only holds true in a given context (paragraph [0020]). This type of propositional variable is simply not disclosed in Christianson. Rather, Christianson discloses listing information sources according to relevance, the information sources having no propositional Boolean variables whose expression only holds true in a given context. Thus, Christianson fails to disclose contexted disjunctions, as recited in claims 1-14.

Furthermore, the conjunction of this type of propositional variable is not disclosed in Christianson either (see, e.g., paragraph [0024]-[0028] for an example of conjoining contexed disjunctions). In particular, Christianson simply ranks network information sources according to relevance. Such a ranking fails to correspond to conjoining as defined in Applicants' specification. Thus, Christianson fails to disclose conjoining contexted disjunctions, as recited in claims 1-14.

Because Christianson fails to disclose both contexted disjunctions and conjoining contexted disjunctions, Christianson cannot reasonably be considered to disclose any of "generating a representation comprising a plurality of contexted disjunctions," "conjoining all of the contexted disjunctions to form a conjunction of contexted disjunctions," or "storing the representation as the conjunction of contexted disjunctions," recited in claim 1 or "a storage device that stores a representation comprising a plurality of contexted disjunctions" or "a processor that conjoins all of the contexted disjunctions to form a conjunction of contexted disjunctions and replaces the representation with the conjunction of contexted disjunctions," recited in claim 11.

Examiner's response:

Above Examiner's Interpretation applies. Applicant's claimed invention is not

functionally distinctive from that used in prior art for the purpose of collecting

"information" from various sources related to a specific goal. First Office action applies.

Examination Considerations

13.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater,* 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

14.   Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

15.   Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

16.   Examiner's Opinion: ¶¶ 13-15 apply. The claims and only the claims form the metes and bounds of the invention.

Conclusion

17.   Claims 1-16 are rejected.

Correspondence Information

18.   Any inquiry concerning this information or related to the subject disclosure

should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is

(571) 272-3685. The Examiner can be reached on Monday – Thursday from

6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

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you have any questions on access to Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll free).

Joseph P. Hirl
Primary Examiner
March 9, 2006